DOCUMENT RESUME

ED 464 337 CS 510 890

AUTHOR	Cross, Geoffrey; Wills, Katherine
TITLE	Using Bloom To Bridge the WAC/WID Divide.
PUB DATE	2001-05-00
NOTE	26p.; Paper presented at the National Writing Across the Curriculum Conference (5th, Bloomington, IN, May 31-June 2, 2001). Small print in the attached reproductions of PowerPoint slides might not reproduce well.
PUB TYPE	Reports - Evaluative (142) -- Speeches/Meeting Papers (150)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Higher Education; Interviews; Longitudinal Studies; *Research Methodology; *Teacher Attitudes; *Writing Across the Curriculum; *Writing Exercises; Writing Research
IDENTIFIERS	*Blooms Taxonomy; Research Summaries; University of Louisville KY

ABSTRACT

A longitudinal study combined Stephen Tsuchdi's Workaday activities with Bloom's taxonomy of educational objectives to bridge the WAC/WID (writing across the curriculum/writing in the disciplines) divide. The researchers hoped that by combining concrete activities that can be applied across disciplines with a Bloomian conceptual framework of objectives, they could assist faculty from varied disciplines to bridge what might be perceived as a disciplinary obstacle. Results of qualitative interviews of instructors from a diverse group of disciplines indicated: instructors found exposure to Bloom's objectives and related writing activities helpful; 100% of instructors planned to use them and felt they could better teach their content area by teaching these activities; and they became willingly more process oriented and more aware of the advantageous linkage between objectives and writing assignments. Findings suggest strong indications that using Bloom's taxonomy of educational objectives, united with appropriate writing activities, does bridge the WAC-WID divide by providing a general heuristic from which professors can make explicit knowledge and practices to which they can then apply selected writing-to-learn and other composition techniques to help students make their way into their disciplines. (Contains 25 references and a table. Appendixes contain an inventory of Bloom's course objectives--workbook pages given to instructors in the disciplines, an outline of writing activities and genres that reinforce learning objectives, and a list of participants by discipline. Reproductions of PowerPoint slides associated with the paper are also attached.) (NKA)

Reproductions supplied by EDRS are the best that can be made
from the original document.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

WAC 2001 Conference
Writing Across the Curriculum
Using Bloom to Bridge the WAC/WID Divide
14F Saturday, May 26, 2001 3:30-4:45
Indiana University
Bloomington, Indiana

Geoffrey Cross and Katherine Wills
University of Louisville

K. V. Wills

1

ED 464 337

Instructors of writing across the curriculum face a trilemma. If we use the writing-to-learn approach of the first stage of WAC, we can be accused of trying to dominate other disciplines by insisting that they adapt our writing approaches over their own (Kaufer & Young, 1993). If we use the learn-to-write in the disciplines approach of what some scholars call the second stage of WAC (Segal, et al., 1998; Jablonski, 1999), we may be accused of being accomodationists who participate in an uncritical replication of social structures, possibly increasing these social structures by improving the community's means while ignoring its ends (Segal, et al, 1998, p. 78). Yet, if we use what some scholars have called the "third stage" approach we are for open, albeit for different reasons, to the accusations of domineering aimed at the first stage. By training instructors in the disciplines in critical pedagogy only, we are open to accusations of trying to force a dogmatic ideological critique upon them (78).

The classification of stages upon which these approaches rest is also open to debate. McCleod (1989) saw programs that had become "continuing programs," institutionalized by their universities, instead of WID, as the second stage. And in contrast to the later assertion that critical pedagogy is the third stage of writing across the curriculum, Anson, Schwiebert, and Williamson in their 1993 bibliography of WAC asserted that the third stage of writing across the curriculum development is "assessment across the curriculum" (xviii). All of these conflicting claims support Walvoord's statement that predictions, proposals, and assessments of the future of writing across the curriculum "are characterized by a pervasive sense of uncertainty." One cause of this uncertainty noted by Walvoord is "lack of an appropriate research base for [writing across the curriculum] (58).

One reason for the lack of such a base is the drive for provocative new findings and theory that has discouraged replication studies in composition, studies that refine and extend previous research, as Schriver (2000) and Charney (1996, p. 591) have noted. Yet, we need to know if provocative findings are more than blips on the screen. A growing body of evidence demonstrates the effectiveness of an approach to writing

CS 510 890

BEST COPY AVAILABLE

across the curriculum using Benjamin S. Bloom's taxonomy, united, in our case, with writing-to-learn activities. The purpose of our article is to present longitudinal assessment research of an established WAC program that suggests that after being trained to use Bloom's taxonomy of course objectives united in our case with appropriate writing-to-learn activities, instructors in the disciplines can adopt general WAC methods to deliver disciplinary-specific (WID) objectives. The use of Bloom's taxonomy can also encourage the kind of reflective practice that can form the foundation of open-minded disciplinary self-critique.

Bridging the WAC-WID Divide

In 1993, Kaufer and Young asserted that "two quite different approaches are discernible in the educational movement that goes by the name "writing across the curriculum"(80). The first, the WAC (writing across the curriculum) approach championed at Michigan Technological University and other institutions in the 1970's and 80's, is a knowledge-making process fostered by generic writing activities such as freewriting. The later WID (writing in the disciplines) approach, in contrast, identifies and teaches specific "rhetorical practices of particular disciplinary communities," and writing assignments are designed to foster the discipline's specific goals (81). At the center of the WAC/WID divide are opposite assumptions about the relationship of form and content. In WAC, the subject matter is not seen to limit writing and determine which writing skills are learned. In WID, the subject matter (e.g., marketing, finance, accounting) does limit and determine the writing. As a result, the disciplines across the curriculum are too different to span with general writing activities, and the writing across the curriculum consultant needs to spend prolonged time interacting with the disciplinary instructor to reach the point of successful integration of writing activities to deliver course objectives.

"So strongly situational is writing," Young notes elsewhere (1987), "[t]hat it makes sense to speak of the ethnolects of various disciplinary communities (11)." Kaufer and Young's research lends support, albeit tentatively, to both WAC and WID positions. They base their speculations in part upon a pilot study they conducted at Carnegie Mellon with a research biologist. After Young and Lili Velez, a doctoral student, made unhelpful suggestions during an initial consultation, they realized that they did not know enough about research biology to be able to suggest appropriate writing activities to a biologist. They also found that they needed to educate the biologist about general writing-to-learn techniques so that the

instructor could attain the willingness and ability to "create places in the classroom for other rhetorical practices and purposes"(102). Afterwards, they adjusted by taking a reciprocal ethnographic approach, investigating in depth the language and discourse practices of academic biology and rhetoric. After long interaction they were able to help the biologist introduce both writing to learn and activities that developed the complex skills needed to learn to write in the discipline. In the end, they felt that both the disciplinary instructor and the writing across the curriculum consultant need to play the role of both native and anthropologist at times to facilitate the cross-cultural collaboration necessary to help writing deliver course objectives.

In another writing across the curriculum consultation that lasted a year face to face, this time at Robert Morris College, Young, working with Carnegie Mellon doctoral students and the Robert Morris faculty, collaboratively developed an approach that helped disciplinary instructors facilitate writing in their disciplinary idiolect (Carson, Sipple, Yahr, Marshall, & O'Banion, 2000; Sipple, Sipple, & Carson, 1999; Sipple & Stenberg, 1990).

Each person that completed their 45-hour seminar composed among other things:

- a course rationale explaining its purpose and student benefits; --a set of cognitive and affective goals that state what students are expected to do, know, and feel to realize the overall purpose of the course
- a matrix that brings together course goals and materials to be covered so that activities can be brainstormed that deliver the goals
- the detailed assignments of the course. (Carson, Sipple, Yahr, Marshall, & O'Banion, 2000, p.14)

To help them list their objectives, instructors from every department were given Bloom's taxonomy of educational objectives, along with a book on how to write objectives (Mager, 1984).

Given the discrete-knowledge concerns of the WID approach, this offering of the same taxonomy to all disciplines would seem ineffective. Certainly, there are many different genres across the disciplines, and there are radical differences in the content of the disciplines. But viewed from a higher level of abstraction, the purposes of a course can be generalized. For example, Bloom's Taxonomy of Educational Objectives lists over 24 general objectives that could apply to a course in any discipline (see Appendix 1). The taxonomy includes a wide and fairly comprehensive array of mental tasks. One objective, "knowledge of terminology," includes the terms and symbols students need to know. Another, "analysis," is the ability

to distinguish and comprehend interrelationships of parts forming a whole. Analysis can be performed in many disciplines. For instance, in the discipline of physical geography, one can analyze the process of Raleigh Scattering--how light provides its spectrum by travelling through clouds that create a prismatic effect, scattering the light into various shades of color. In history, one can focus the analysis on causes of the French Revolution. The "content" of the analysis differs in history and geography, but the mental task remains identifying the parts and how they constitute the whole.

Bloom's taxonomy has had an important influence on composition studies since the 1970s. His taxonomy was used to help James Britton et al., in the Development of Writing Abilities identify the different cognitive demands of different kinds of writing and "a hierarchy of kinds of writing which is shaped by the thinking problems with which the writer is confronted"(52). Bloom was later used by Rose, and Kiniry and Strenski (1985), to create writing assignments and/or sequences of assignments based upon various "schema"--listing, definition, seriation, classification, summary, comparison/contrast, analysis, and academic argument.

To test the effectiveness of their approach using Bloom's taxonomy to help instructors devise and deliver their objectives, Sipple et al., used attitude surveys of students, administrators, and instructors along with protocol analysis. They conducted protocol analysis on five participants in the 45 hours of WAC faculty training seminars and four non-participants. Subjects thought aloud while creating a writing assignment for a class. Immediately after completing the assignment they were asked questions about the goal. Data of pairs of participants and non-participants teaching the same class were compared. The researchers found that participants had more clearly defined strategies for planning the nature, function, use, and variety of the student writing they assign than those who do not participate (414). More specifically, "Participants [were] more likely than non-participants to develop assignments that further the learning objectives of their courses and that are integrated into the course structure. . . ." (414).

This research of several participants at one site suggested that using Bloom's taxonomy is helpful to disciplinary instructors trying to find writing activities to deliver their courses' objectives. However, faculty attitudes toward the workshops were mixed, at least in part because of the 17-week, 45-hour length.

Over the last six years the writing across the curriculum program at the Anonymous University has used Bloom's taxonomy in an approach similar to that used at Robert Morris. However, we believed

that if faculty were given pertinent writing-to-learn activities specifically chosen to support the objectives faculty had identified after reading Bloom's taxonomy, faculty would be able to transform these activities to yield disciplinary-specific goals. In so doing, faculty members might be able to spend less time in training to produce the same result.

Many objectives can be delivered by workaday writings and some paper assignments that may be used across the disciplines. Workaday Writing (Tsuchdi, 1986) has three characteristics that help the instructor meet learning objectives in a "content" course:

- it is short and impromptu, not requiring large amounts of student or class time
- it is written primarily for the benefit of the writer
- it does not require extensive instructive commentary or grading (pp. 18-28).

An example of a paper assignment that could be used differently in various disciplines is the position paper, which can summarize the issues and one's position in any disciplinary controversy. Even without the linked activities, simply reviewing the taxonomy of course objectives would appear to be helpful to teachers, as Rose (1983) found after he and his colleagues at UCLA collected 445 essay and take-home examination questions as well as paper topics from 17 departments and analyzed them:

> Our surveys also suggested that various academic audiences write and read with an elaborate and--unfortunately for our students--often subtle, even tacit set of philosophical and methodological assumptions that determine what they will consider acceptable or unacceptable reasoning, presenting of evidence, and inferring. (111)

Having professors inventory their desired critical thinking, knowledge, and affective outcomes for their courses helps them reveal all aspects of their curricula, curricula hidden even from themselves. Bloom's objectives coupled with writing to learn activities and larger assignments were presented to faculty in our workshops in the following manner. Reviewing Bloom's taxonomy, Workshop I participants inventoried their objectives and particularly considered incorporating the associated activities to them help reach class goals daily. Participants were given a pamphlet discussing 28 kinds of writing activities. In Workshop II, participants discussed and selected the most pertinent workaday writing. In subsequent workshops, instructors applied these activities to the goals of their discipline, modified as necessary, and

sequenced the activities to lead up to larger writing assignments. Because we coupled writing-to-learn activities and larger assignments with Bloom's taxonomy, we built upon and refined the previous study using Bloom's taxonomy (Sipple, et al., 1990). To evaluate the effectiveness of this approach to the disciplinary instructors, we addressed the following three research questions:

- do course objectives that reach a level of abstraction to be able to be applied across the curriculum help instructors identify goals for their disciplines?
- if so, are the workaday writings associated with the course objectives used in instructors' new syllabi?
- using this approach, can a workshop that involves faculty for 10 hours facilitate the effective implementation of writing to learn activities that deliver disciplinary objectives?

Methodological Approach

The purpose of this study was to assess whether faculty training workshops/seminars bridge the WAC/WID divide by presenting Bloom's Taxonomy of Educational Objectives linked with pertinent workaday writings and activities (see Appendix II). We were aware that we were following, in part, the tradition of the teacher-researchers who are also "theorist-practitioners" as Goswami and Stillman note in *Reclaiming the Classroom* (1987). Like James Berlin, James Britton, Ann Berthoff, Shirley Brice Heath, Ken Macrorie, and Janet Emig, we searched not only our classrooms, but also the discipline to generalize about practice and theory as they relate to the reconstruction of knowledge (Ray, 1993).

Participants

From 1996-2001, 52 faculty participants--27 women and 25 men--have taken the annual Anonymous University writing across the curriculum seminar using Bloom's taxonomy united with writing activities and assignments (see Appendix III). Twenty-four disciplines were represented. Seminar attendance ranged from 6-12 participants to provide personalized instruction. Instructional participants included four graduate student WAC Assistant Coordinators and Kenneth Geoffrey (a pseudonym), WAC Coordinator, from1996-present. One of the graduate students, Marie Johnson (also a pseudonym), acted as a co-researcher in 2000 and 2001 for this study. The Provost's Office at Anonymous University strongly supports the WAC program with institutional resources and policy. Faculty receive $500 for attending five, two-hour seminars. Each year, the Provost in a personal letter recognizes faculty in the WR program and their names are published in the WAC newsletter, WAC Review of Anonymous University.

Data Collection Procedures

To evaluate faculty reception of our approach, we analyzed three data sources from the participants: self-assessed surveys; before- and after-workshop syllabi of ten participants; and one-on-one interviews of the 2001 participants. We triangulated our data sources to more accurately correlate the faculty participants' verbally-expressed intentions with their actual implementation of activities and objectives into their syllabi. We collected data from the workshops beginning in 1996 through our last session in the spring of 2001.

Surveys

We asked participants after each of the five two-hour workshops in each seminar to complete hand-written surveys of their responses to the instruction. The surveys, composed by Geoffrey and program staff members Abbie Brushman, Mike Jackman, Belinda Krebs, Todd Haswell, and Jackie Ramis (all pseudonyms), included short answer questions addressing the taxonomy and activities. At the end of each year's seminar, participants evaluated it by responding to a set of statements by choosing the Likert Scale responses "strongly agree," "agree," "uncertain," "disagree," and "strongly disagree"(Gay, 1981). We were particularly interested in the first two seminar sessions in which Bloom's objectives were linked writing activities. Assistant Coordinators summarized the quantitative and qualitative responses. The purpose of the surveys was to determine whether matching course goals with the activities would benefit participants from different disciplines in their construction of writing-intensive courses.

Comparison of Syllabi

In October, 2000, all workshop participants from 1996-2000 were asked to submit before- and after-seminar hardcopy syllabi. Of 45 workshop participants, 15 had left Anonymous University. Of the remaining 30 faculty, 10 (33.3%) submitted syllabi for our study. All changes added to the "after" syllabi were highlighted. Descriptive and analytic codes were developed describing the types of changes made from the before syllabus to the after syllabus (Miles and Huberman). Codes identified Bloom objectives and related workaday activities. The purpose of this data was (a) to determine whether uniting Bloom with workaday writing activities transferred into their syllabi, (b) to note the degree and nature of any changes after the seminar, and (c) to see whether the self-assessed responses in the surveys reflected the smaller sample of instructors' revised syllabi.

Interviews

Our third data source was one-on-one audio taped interviews with each of the seven 2001 seminar participants. The participants were from Art History, Communication, Economics, Finance, Military Science, Philosophy and Photography. Wills conducted the interviews with the faculty members in their offices one week after the final seminar. Each interview session lasted approximately one hour. A series of experience/behavior, opinions/values, feeling, knowledge, sensory, and background/demographic questions were asked (Patton, 1990, pp. 290-295). To de-emphasize our questions so as not to lead our interviewees, we interspersed general topic questions with questions meant to elicit information about how or if the participants integrated activities with Bloom objectives. Audiotapes were professionally transcribed and the 42 pages of transcriptions were coded by the authors, using the codes described above. The purpose of these interviews and data analysis was to assess how well participants remembered instruction in Bloom objectives and workaday writings and what changes, if any, they planned to make to their syllabi. These results were compared to survey and syllabi data.

Results: Workshop Evaluation Surveys-Favorable Attitudes

The short-answer surveys completed by the 35 participants indicated that a large majority found using Bloom's taxonomy helpful in accessing and realizing their course objectives (See Table 1). Of a total of 46 responses (counting questions 3 and 4 in 1997), 78% (36) were positive, 6.5% (3) were negative, and 15% (7%) were mixed.

We also asked at the end of each workshop series, in an evaluation of the whole seminar, whether the disciplinary diversity in the workshop was a problem, something the Kaufer and Young case study would suggest. Responding to the negatively phrased prompt "The disciplinary diversity of the participants was a disadvantage," the twenty-four respondents from the 1997-2000 seminars disagreed, averaging a 2.04 in the 1-5 scale. In 1996 we phrased the question positively, asking whether the disciplinary diversity was an advantage. The six respondents averaged 4.166, indicating their agreement that the diversity was a plus.

The best indicator of whether the workshops with their Bloom approach were useful to professors in the disciplines was the 35 respondents' affirmation that they would recommend the workshops to their colleagues. The mean score for all respondents was 4.68, a score indicating agreement, but closer numerically to strong agreement.

Thus the participants' responses to workshops over six years gave a strong indication that instructors in the disciplines valued what an outsider might see as a perfunctory exercise of self-inventory. Our next phase of research investigated what affect the seminars had on the course designs of participants.

Table 1

Summary of 1997-2001 Workshop I Evaluations:

Using Bloom's Taxonomy Coupled With Workaday Writings

Year	Question	Response
1997	Question 2: Was the activity of identifying your course objectives helpful? Why or why not?	-6/7 positive (85.7%) --1/7 wanted more time
	Question 3: Was the activity on matching course goals with specific forms of writing helpful?	--6/7 positive (85.7%) --1/7 "yes," but a "little vague"
1998	Question 3: What did you think of the discussion of Bloom's taxonomy in terms of its ability to help you access and realize your own course goals? What, if any, improvements might you suggest?	--9/10 found it very helpful --1/10 found it o.k.
1999	1999 (same question as 1998)	--5/10 positive --3/10 negative --2/10 mixed
2000	2000 (same question as 1999)	--7/7 positive
2001	2001 (same question as 2000)	--3/5 positive --2/5 mixed

Objectives and Activities Added: Comparison of Before- and After-Seminar Syllabi

In the fall of 2000, we contacted all instructors on campus who had taken our seminars. Forty-five had taken the seminar, but 15 were no longer on our faculty by the time we tried to contact them. Of the 30 on campus, 10 responded to our request, providing syllabi constructed before the seminar and syllabi constructed after the seminar.

Our comparison of before- and after-seminar syllabi found that several participants added activities to support existing objectives; in addition, several added objectives to justify and contextualize existing activities, and several added both objectives and syllabi. We also found that several shifted from a product to process-based approach. Forty per cent (4/10) of participants added activities to support extant

objectives. These participants were in healthcare and social science disciplines: nursing, health communication, political science, and anthropology. The following activities were added to deliver (and justify) extant objectives: freewriting, essay exams (two instructors), position papers, and annotated bibliography.

Conversely, disciplinary instructors incorporated objectives to justify extant activities as well. In our analysis of syllabi, objectives were defined and identified as "expected learning outcomes" Fifty per cent of instructors (5/10) added new objectives to explain and/or justify old activities. Sixteen of the 24 Bloom objectives we presented were added (66.6%). Objectives added included knowledge of categories, conventions, specific facts, terminology, theory, trends, methodology, and principles; also analysis, selective attention, awareness, evaluation, extrapolation, interpretation, preference for a value, and willingness to respond. Instructors adding objectives were in a variety of disciplines: Women's Studies, Spanish, Computer Science, Pan-African Studies, and Sports Administration.

Both activities and the objectives that explained and/or justified them were added by four out of 10 instructors (40%). Four of the five that added objectives also added new activities coupled with new objectives. The following three objectives were added to Spanish 332, Latin American Culture and Civilization. The additional objectives exemplify the transformation from generic objective to disciplinary objectives:

- To acquire a basic knowledge of Latin American culture and civilization by studying the demographic, historical, political, and socio-economic factors that affect them.
- To analyze from different perspectives the problems as well as the achievements of Latin America, and to adopt a critical stance toward them.
- To improve your command of Spanish through formal and informal writing assignments, small group work, communication via e-mail, and exams.

The following activities and assignments from Spanish 332 exemplify the linkage of adaptable writing activities and the Bloom objectives delivered:

- web page- (was used to foster) knowledge of terminology, receptivity,
- awareness
- summaries--knowledge of terminology

- journals--interpretation, knowledge of terminology
- position papers--analysis, interpretation, willingness to respond,
- awareness, knowledge of trends
- outline for oral presentation--knowledge of facts about website and
- Spanish language, knowledge of trends, categories, principles, theory

The disciplines of the instructors adding both objectives and their recommended activities were Women's Studies, Spanish, Computer Science, and Sports Administration.

To summarize the syllabus findings, 50 per cent of the sample added new objectives, another 40% added activities. Thus, 90 per cent of the sample made use of the material-added activities and/or objectives—after exposure to Bloom objectives and related writing activities and assignments. Having analyzed six years of short-answer evaluations of the objectives and activities workshops, as well as a sample of professors' revisions, we conducted hour-long end-of-seminar interviews with all participants in the 20001 workshop to understand an entire seminar group's attitudes toward our approach in greater depth, important particularly given accusations of colonization aimed at WAC instruction involving extra-disciplinary knowledge.

Interviews of Seminar Participants: Blooming Expectations

Shortly after the 2001 seminar, Johnson (pseudonym, as stated above) conducted individual audio taped interviews with the seven participants. Instructors came from the disciplines of Art History, Philosophy, Photography, Economics, Finance, Communication, and Military Science.

The interviews indicated that participants planned to add activities to support existing objectives or new objectives. Several noted an increased awareness of the linkage between objectives and assignments. Moreover, most instructors shifted their pedagogy away from a product-centered course toward a process-based course. The seven participants planned to add 22 activities. Everyone (100%) expected to add at least two new activities; military science planned to add the most (7).

The three most favored activities to be added were journals (4 instructors [57%] planned to add them) and peer editing and drafting (3 [43%] planned to add each of them. Objectives were also mentioned in conjunction with activities. All Bloom objectives were mentioned by one participant. After attending the seminar, five of the seven participants planned to add or in one case enhance a process approach. Three

instructors very clearly increased their awareness of linkage between objectives and activities. As one award-winning teacher said the following:

> Usually I haven't done that [link course objectives to activities] in the past. I just say 'this is what you're going to do,' and now I'm thinking I'm going to be a little more forthright, not only with myself but with students 'this is why we're doing what we're doing.' I did that for [Communication] 305. Normally what I would have done before taking the class would have been that part [just tell the students what to do].

To summarize, qualitative interviews of instructors from a diverse group of disciplines showed again that teachers found exposure to Bloom objectives and related writing activities helpful. One hundred per cent planned to use them. They didn't indicate they were being colonized. They felt they could better teach their content area by teaching these activities, often linked to Bloom objectives. They became willingly more process oriented, and many became more aware of the advantageous linkage between objectives and writing assignments, even though their objectives were geared to the needs of their discipline.

Conclusion: Toward a National Approach to WAC/WID Course Design Workshops

Analysis of after-workshop surveys, before- and after-workshop syllabi, and qualitative interviews supports the approach of using Bloom's generic objectives as a heuristic to help instructors formulate disciplinary objectives in order to then incorporate effective writing activities. Attitude surveys from seminars conducted from 1996-2001 indicate that 78 per cent of participants found the discussion of Bloom's taxonomy helpful in identifying their course objectives. Examining the before-workshop and after-workshop syllabi of 10 of these participants, we found that 50% added new objectives. We also found that another 40% added activities, totaling 90% of the sample showing some addition. One hundred percent of the instructors queried in one-on-one interviews planned to use activities we taught, and often mentioned their objectives. These findings support findings of Sipple et al., that participants using an approach that includes an inventory using Bloom's taxonomy of course objectives were more likely to create assignments for their writing-intensive courses that furthered the learning objectives of their courses. Sipple et al., recommend their 45-hour seminar approach as a WAC model to disseminate across the nation. In 1998, Robert Morris College won an IPSE grant to disseminate their approach to six other colleges and

universities across the United States (p. 416). Our findings support their Bloom-oriented approach, an approach that inspired our own. One drawback, however, is instructor complaint about the length of the seminar. We found that by connecting Bloom objectives overtly with writing activities and assignments that deliver them in our 10-hour seminar, many instructors added objectives and/or objective-related writing activities. Instructors also had a favorable attitude toward the seminars and would recommend them to colleagues. More research is needed to determine what amount of training is necessary in different programs. In the WAC 2001 Conference, Andrea Lunsford called for a national research agenda for WAC. Given the increasing body of evidence suggesting that using Bloom objectives as a heuristic helps instructors across a variety of disciplines create effective writing-to-learn activities, investigating this approach should become a priority of researchers of WAC.

Pedagogical Implications: WAC, WID, and Critical Pedagogy Divide

Our research suggests that an approach using generic objectives and related activities can work across the disciplines when it serves heuristically to help instructors identify disciplinary objectives and modify activities to deliver them. WAC instructors are in no way dictating objectives or activities with this general approach. And this is not to say that there aren't disciplinary-specific genre that disciplinary instructors need to teach or that writing across the curriculum instructors need to teach them after careful research and reflection. But teaching a new genre effectively often involves breaking the writing down into several subskills entailed in the larger writing process, as George Hillocks notes (1995). Appropriate workaday writings can help students hone these subskills. Those activities may be identified when instructors inventory their objectives using Bloom's taxonomy linked with writing activities and assignments.

Using Bloom as a heuristic can help instructors to become self-reflexive, surfacing any curricula hidden from themselves. Our research and workshop experience suggests that the assumption that content area instructors are fully cognizant of their instructional methods and objectives is often inaccurate. As a workshop participant from Philosophy commented, "Most of us have never taken education courses. So we don't have a didactic or pedagogical background. We just teach and fly." A new awareness of one's expectations can lead to an open-minded examination of disciplinary and any political forces that shaped them, whereas, teaching an aggressive critical pedagogy to multi-disciplinary participants might alienate

those who resist the even the hint of colonizing or ideological tendencies when being instructed on how to incorporate diverse writing into their courses. The use of Bloom's taxonomy to surface the assumptions of their local knowledge can encourage in instructors the kind of reflective practice that can form the foundation of open-minded disciplinary self-critique.

Our longitudinal study presents strong indications that using Bloom's taxonomy of educational objectives united with the appropriate writing activities for each does bridge the WAC-WID divide by providing a general heuristic from which professors can make explicit local knowledges and practices to which they then could apply selected writing-to-learn and other composition techniques to help students write their way into their disciplines. This approach to WAC training allows faculty from across the disciplines, in Thomas Angelo's words but without his irony, to "get together and be diverse."

Works Cited

Angelo, Thomas. (1997). "Seven Shifts, Seven Levers: Using Assessment to Develop Learning (and Writing!)." Paper presented at Communities Across the Curriculum Third National Writing Across the Curriculum Conference. Charleston, S.C. 2/6/97.

Anson, Chris, John E. Schwiebert, and Michael M. Williamson. Writing Across the Curriculum: An Annotated Bibliography. Westport: Greenwood, 1993. (xviii, 58)

Bloom, Benjamin S. Taxonomy of Educational Objectives: The Classification of Educational Goals. New York: D. McKay, 1974.

James Britton The Development of Writing Abilities. London: Macmillan Education, 1975. 11-18.

Carson, Jay, William Sipple, Mike Yahr, Thomas Marshall, and Mike O'Banion. "A New Heuristic for Planning WAC Programs: Ensuring Successful Collaboration From All Stakeholders." Language and Learning Across the Disciplines 3.4 (2000): 14.

Charney, Davida. "Empiricism is Not a Four Letter Word." College Composition and Communication 47.4 (1996): 567-593.

Gay, L.R. Education Research: Competencies for Analysis and Application. Columbus: Charles R. Merrill, 1981.

Goswami, Dixie, and Peter Stillman. Reclaiming the Classroom: Teacher Research as an Agency of Change. Portsmouth, NH: Heinemann, 1987.

Hillocks, George, Jr., and Michael W. Smith. Teaching Writing as Reflective Practice. New York: Teachers College Press, 1995.

Jablonski, J. "Postmodern WAC: Critical Strategies for Seeing (Teaching) Our Way Out of the WAC/WID Impasse." Paper presented at Conference on College Composition and Communication. Atlanta, GA. 1999.

Lunsford, Andrea. "Material Practices and Writing Across the Curriculum." Speech presented at 2001 Writing Across the Curriculum Conference. Bloomington, IN. 6/2/01.

Kaufer, David, and Richard Young. "Writing in Content Areas: Some Theoretical Complexities." Theory and Practice in the Teaching of Writing: Rethinking the Discipline. Ed. Lee Odell. Carbondale, IL: SIU P, 1993. 71-105.

Kiniry, Malcomb, and & Ellen Strenski. "Sequencing Expository Writing: A Recursive Approach." College Composition and Communication 36.2 (1985): 191-202.

Mager, Robert F. Preparing Instructional Objectives. Rev. 2nd. ed. Belmont, CA: Pittman, 1984.

McCleod, Susan H. "Writing Across the Curriculum: The Second Stage and Beyond." College Composition and Communication 40 (1989): 337-43.

Miles, Mathew B., and Michael Huberman. Quantitative Data Analysis. 2nd ed. Thousand Oaks, CA: Sage, 1994.

Patton, M Q. Qualitative Evaluation and Research Methods. 2nd ed. Newbury Park, CA: Sage Publications, 1990. 290-295.

Ray, Ruth E. The Practice of Theory: Teacher Research in Composition. Urbana, IL: NCTE, 1993.

Rose, Mike. "Remedial Writing Courses: A Critique and a Proposal." College English 45: 2 (1983): 109-128.

Schriver, Karen. "Is Technical Communication Research Running on Empty? Envisioning a More Responsive and Responsible Research Agenda." Speech Presented at Tech Comm@2000, Association of Teachers of Technical Communication Convention. Minneapolis, MN. 4/12/2000.

Segal, Judy, Anthony Pare, Doug Brent, Douglas Vipond. "The Researcher as Missionary: Problems with Rhetoric and Reform in the Disciplines." College Composition and Communication 50.1 (1998): 71-90.

Sipple, Jo-Ann, William Sipple, and J. Stanton Carson. "Pedagogical Invention and Rhetorical Action Across the Curriculum." Inventing a Discipline: Rhetoric Scholarship in Honor of Richard E. Young. Ed. Maureen Daly Goggin. Urbana, IL: NCTE, 2000. 403-432.

Sipple, Jo-Ann M., and Chris D. Stenberg. "Robert Morris College." Programs That Work: Models and Methods for Writing Across the Curriculum. Ed. Toby Fulwiler and Art Young. Portsmouth, NH: Boynton/Cook, 1990: 181-98.

Tsuchdi, Stephen. Teaching Writing in the Content Areas. New York: NEA, 1996.

Young, Richard. Recent Developments in Rhetorical Invention." Teaching Composition: Twelve Bibliographical Essays. Ed. Gary Tate. Fort Worth: Texas Christian UP, 1987. 1-38.

Appendix I

Inventory of Bloom's Course Objectives-Workbook Pages Given to

Instructors in the Disciplines

BLOOM'S TAXONOMY is a system for organizing knowledge that is helpful for identifying course goal. The following exercise has two parts.

First

Place a check next to the items below that best describe types of knowledge of primary importance for the WR course you are planning or revising. Consider the categories as a prompt for thinking rather than as a rigid system. Therefore, don't be concerned if categories overlap a bit (for instance, conventions and classifications). What's important is that it prompts you to make your course objectives more explicit.

Second

Space has been provided for you to write specific descriptions of the types of knowledge you want your students to acquire. Answer the categories that you have indicated are a priority, then you may wish to consider additional categories.

__ Knowledge of specific terms, symbols or facts, e.g., H2SO4, rad, clef, the names of all the musical key signatures, ion, verbal, noun clause, names of bones.

__ Knowledge of rules, guidelines, conventions, methods, or criteria; e.g., rules of punctuation, guidelines for writing a lab report, dosage guidelines, guidelines for placing an x-ray, ways to solve math problems.

__Knowledge of trends or sequences; e.g., changing attitudes regarding the role of women in American society, the increased importance of electronic communication in business, the changing role of the armed forces in America.

__Knowledge of classifications or categories, e.g., types of courts, types of minerals, types of sports scholarships.

__Knowledge of universal principles, theories, e.g., theory of evolution, ethics, laws of motion, ballistics.

__Translation (i.e., putting communication of one form into another form), e.g., moving from raw data to chart or graph, musical score to performance, patient vital signs to a chart.

__Interpretation (i.e., ability to reorder ideas, comprehend interrelationships); e.g., making a recommendation or writing a report based on evidence.

__Extrapolation (i.e., ability to go beyond data, to develop insight, to infer, to predict), e.g., predicting trends, answering the question "what might happen if . . .?"

__Analysis (i.e., taking knowledge apart and understanding how it works); e.g., understanding bias or logic of an argument, the components of an unknown compound in chemistry, the motifs or chord progressions of a musical score.

__Synthesis (i.e., arranging or combining information into a new whole); e.g., planning a program or panel discussion, writing a comprehensive treatment of a subject.

__Evaluation (i.e., ability to make judgments); e.g., evaluating a work of art, critiquing a draft of a paper.

__Develop attitudes/awarenesses; e.g., recognizing other points of view (religious, ethical, professional, etc.).

Appendix II

Writing Activities and Genres that Reinforce Learning Objectives

I. Knowledge

A. Knowledge of Specifics

1. Knowledge of terminology--process logs, journals

2. Knowledge of specific facts--abstracts, annotated bibliographies

B. Knowledge of ways and means of dealing with specifics

1. Knowledge of conventions--critical analyses, lab and field notebooks

2. Knowledge of trends and sequences--outlines, summaries, abstracts, annotated bibliographies, flow charts

3. Knowledge of classifications and categories--critical analyses, lab and field notebooks, journals, outlines, precis, having students come up with questions before lecture, having students respond to questions about the lecture in the middle of it, having students summarize the lecture at the end of class

4. Knowledge of criteria--outlines, summaries, abstracts, annotated bibliographies

5. Knowledge of methodology--process logs, journals, lab or field notebooks

C. Knowledge of the universals and abstractions of a discipline

1. Knowledge of principles and generalizations--outlines, summaries, journals, flow charts, essay exams, microthemes

2. Knowledge of theories and structure--outlines, summaries, journals (in lab notebooks), flow charts, essay exams, microthemes

II. Intellectual abilities and skills

A. Comprehension

1. Translation--journals, formal translations, summaries, annotated bibliographies

2. Interpretation--journals, learning logs, critical analyses, letters to editor, editorials, position papers

3. Extrapolation--journals, learning logs

B. Application

1. Analysis--journals, learning logs, essays, essay exams, microthemes, diagrams and flow charts, etc

2. Synthesis--diagrams linked with journals, hypertext webs, essays

3. Evaluation--reviews, critical analyses, editorials, position papers

III. Affective domain

A. Receiving

1. Awareness--journals, learning logs

2. Willingness to receive--expressive writings, journals, freewrites, summaries, outlines, annotated bibliographies

3. Controlled or selected attention--lab reports, field notes, journals, freewrites

B. Responding

1. Acquiescence in responding--summaries, lab reports (how to titrate, etc.)

2. Willingness to respond (creative engagement)--journals, publications (newsletters, etc.)

3. Satisfaction in response--journals, publications--essays, stories, poems, freewrites

C. Valuing

1. Acceptance of a value--guided journals, freewrites, critical analyses

2. Preference for a value--same as above, publications

3. Commitment--same as above, publications (letters to editor, advocacy literature, editorials, etc.)

Appendix III

Participants by Discipline

Allied Health (3-Nuclear Medicine, Radiology, Physical Therapy)

Anthropology (1)

Art (2)

Art History (1)

Biology (1)

Business (2-Equine Administration, Finance)

Communication (4)

Computer Science (1)

Economics (1)

Engineering (1)

Geography and Geosciences (1)

History (2)

Military Science (5)

Modern Languages (2)

Music (1)

Nursing (2)

Pan African Studies (4)

Philosophy (2)

Political Science (4)

Religious Studies (2)

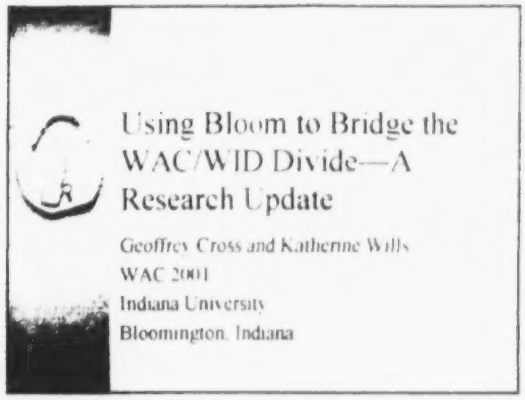
Sociology (3)

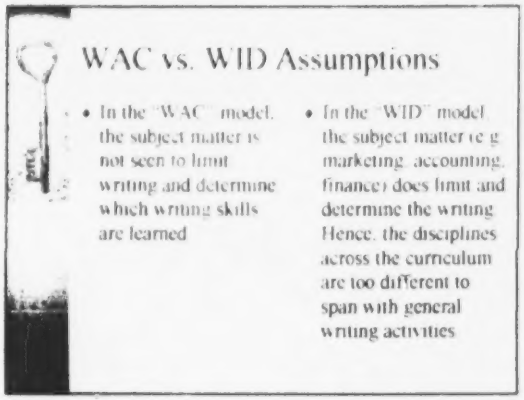
Sports Administration (4)

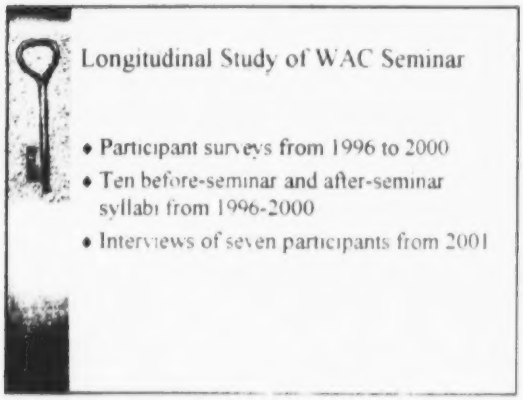
Theatre Arts (1)

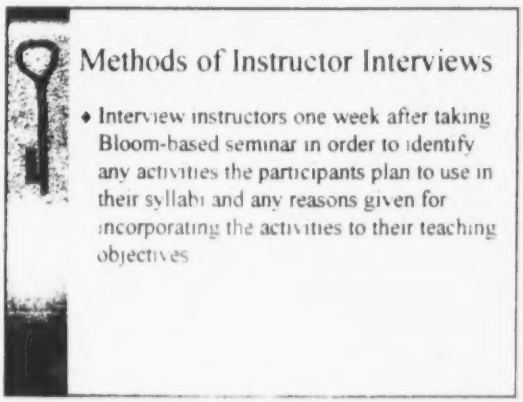
Women's Studies (1)

52 Participants


Using Bloom to Bridge the WAC/WID Divide—A Research Update
Geoffrey Cross and Katherine Wills
WAC 2001
Indiana University
Bloomington, Indiana


WAC vs. WID Assumptions
• In the "WAC" model, the subject matter is not seen to limit writing and determine which writing skills are learned
• In the "WID" model, the subject matter (e.g. marketing, accounting, finance) does limit and determine the writing. Hence, the disciplines across the curriculum are too different to span with general writing activities


Longitudinal Study of WAC Seminar
• Participant surveys from 1996 to 2000
• Ten before-seminar and after-seminar syllabi from 1996-2000
• Interviews of seven participants from 2001


Methods of Instructor Interviews
• Interview instructors one week after taking Bloom-based seminar in order to identify any activities the participants plan to use in their syllabi and any reasons given for incorporating the activities to their teaching objectives

BEST COPY AVAILABLE

Seventeen of the 24 extant Bloom objectives were added (70.8 %).

Comparison of Survey and Syllabi Data

Survey

After compiling survey data from [illegible] we examined whether participants felt the discussion of Bloom's taxonomy helped them identify their course objectives. Eighty percent (8[illegible]%) responded positively.

Syllabi

In our syllabi, we found that 50% added new objectives and 40% percent added activities. When we taught Bloom's objectives linked with Workplace writings to bridge disciplinary teaching, 90 % of participants made use of the material and or found it useful for the teaching of writing in content courses.

Unexpected Finding

- Five of 10 instructors (50%) added drafting procedures to their syllabi instead of assigning a single unscaffolded final paper
- Three of 10 instructors (30%) added peer editing sessions with their extant paper assignment
  - *Thus, several disciplinary instructors shifted from a product-based approach to a process-based approach*

Comparison of syllabi constructed before the workshop syllabi constructed after the workshop showed that

- Several participants added activities to support existing objectives
- Several added objectives to justify and contextualize existing activities and
- Several added both objectives and activities

[illegible] Incorporated Activities

- [illegible]
- [illegible]
- [illegible]
- [illegible] paper
- [illegible]

Comparison of Survey, Syllabi, and One-On-One Interview Findings

- [illegible] respondents and [illegible] identify their [illegible]
- [illegible] showed additional [illegible] objectives
- [illegible] respondents planned to use the activities taught in WAC seminar and [illegible] their objectives in connection

BEST COPY AVAILABLE

Spanish Disciplinary Instructor Incorporated Objectives to Complement Her Activities

- "To analyze from different perspectives the problems and achievements of Latin America and to adopt a critical stance toward them ..."
- "Improve command of Spanish through formal and informal writing assignments through ... exams."

Spanish Instructor Incorporated Objectives

- Analysis
- Translation
- Interpretation
- Awareness
- Receptivity
- Willingness to respond
- Knowledge of
  - Terminology
  - Facts
  - Specifics
  - Trends

Instructor's Comment on the Effect of Combining Bloom's Taxonomy and Workaday Activities

"I have an idea of what students should know in the syllabus and then I have an idea that students need activities and exercises. Now I am consciously giving assignments with objectives in mind."

Philosophy Professor

A Communication Instructor Links Activities to Objectives to Pedagogy

Bloom has an effect, but not from the standpoint of adding activities.

"... usually I haven't done that in the past. I just say, 'this is what you're going to do,' and now I'm thinking I'm going to be a little more forthright, not only with myself but with students 'this is why we're doing what we're doing.' I add that for 305. Normally what I would have done before [doing the class would have been that part [just to] the students what to do]."

Instructors Add Activities

- All participants planned to add at least 2 new activities (Mean = 5.5, Range = 2-10, Mode = 6, Median = 6)
- Twenty-two activities were added among seven participants
- The most favored activity was journals (4)
- Peer review, editing and drafting were next (3)

BEST COPY AVAILABLE